SPECIFICATION

LCD Module User Manual

MODULE NO.: GD56MLXD

REV NO.: 1.00-AT050TN22 V.1

Dalian Good Display Co., LTD.

TEL.: 86-411-84619565/84573876

FAX.: 86-411-84619585

E-mail: sales@good-lcd.com.cn

Website: http://www.good-lcd.com

Specification

Model: GD56MLXD

VER:1.00-AT050TN22 V.1

USER			MANUFACTURER		
QA	Project	Approved by	Prepared by	Checked by	Approved by

Catalogue

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Version

Date	Version	Content
2008-4-30	RD001	The First Version
2008-6-26	VER:1.00	The Second Version(5.6”LCD)
2008-7-10	VER:1.00	The Second Version(5.0”LCD)

1. Profile：

GD56MLXD VER:1.00-AT050TN22 V.1 color tft lcd module is composed by GD56MLXD VER:1.00 driver board and AT056TN22 V.2 digital panel. It can input CVBS,S-VIDEO,VGA signal, OSD menu display,and adopt IC to control power.

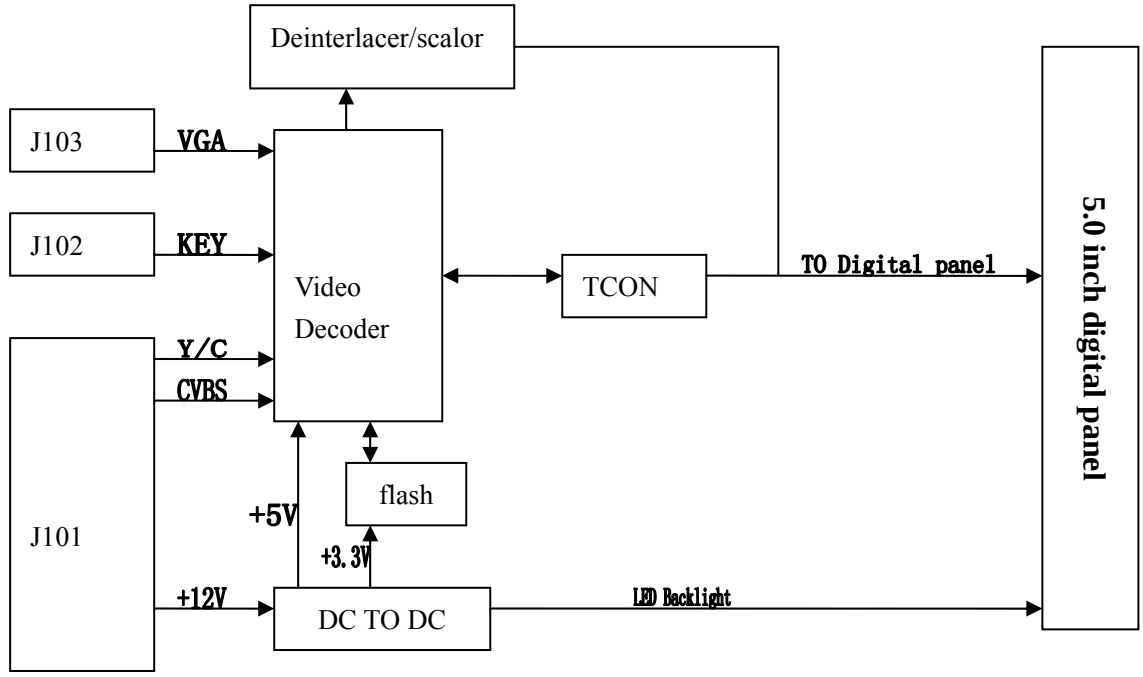
2. Application：

- Office electronic equipment
- Apparatus & measurement appliance
- Machinery
- Audiovisual （Display for car、Protable DVD、Long-distance terminal、Lcd TV）
- Home appliance （Video door phone、Video telephone）
- Don’t use it for high-sophisticated product which need high requirement in term of reliability & stability &accuracy.

3.Main Parameter：

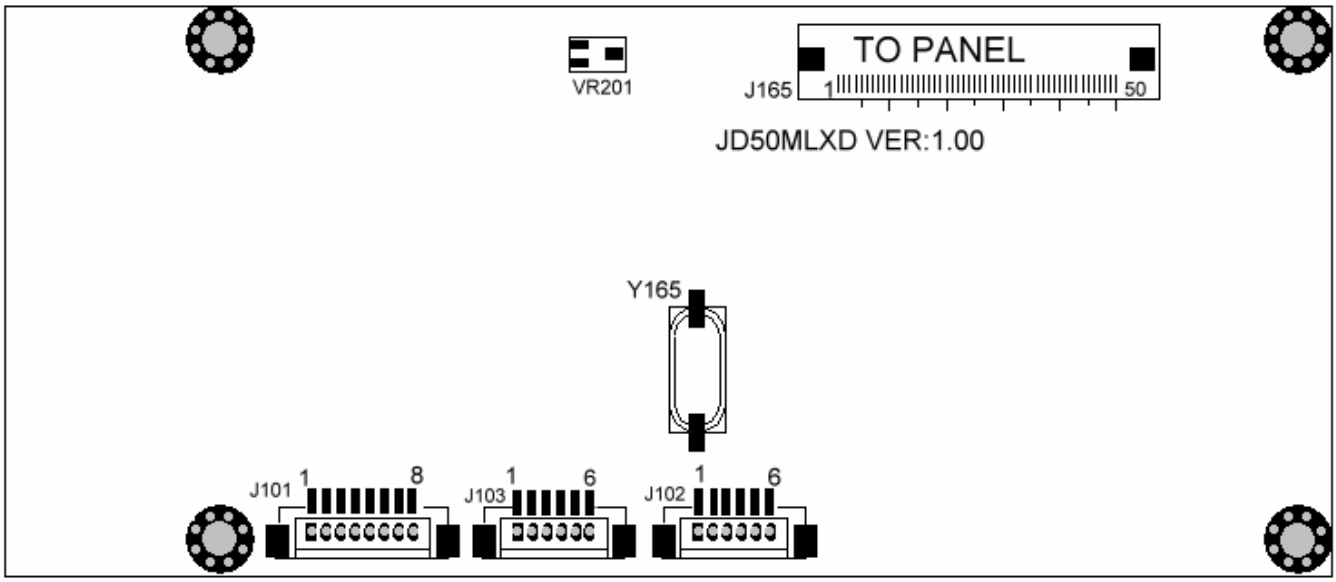
- Name：5.6”TFT-LCD module
- Model：GD50MLXD VER:1.00-AT050TN22 V.1
- Panel：5.6＂TFT-LCD
- Backlight：LED
- Resolution：640×RGB×480
- Brightness：200 Cd/m^2 (take FPC line down, only light the backlight to test)
- View angle（U/D/L/R）：(50/70/70/70)
- Power input：DC**9**~15V（Type12V　280mA±20mA ）
- Dimension of panel(mm)：101.568（H）× 76.176（V）
- Overall dimension of panel(mm)：117.65(W)×88.43（H）×5.7(D)
- Structural dimension of PCB(mm)：117.1(W)×49.9（H）×6.7(D)
- Operation temperature：-20~70℃
- Relative humidity：5~95% RH
- Storage temperature：-30℃~+80℃

4. Block Diagram：



Product Picture：

5. Wiring Diagram：



6. Connection Definition of Driver Board：

6.1J103:

Pin No.	Symbol	I/O	Description	Remarks
1	R+	I	VGA-R	
2	G+	I	VGA-G	
3	B+	I	VGA-B	
4	GND	-	Ground	
5	VS-IN	I	VGA-VS	
6	HS-IN	I	VGA-HS	

6.2 J101:

Pin No.	Symbol	Description	Remarks
1	+12V	+12Vpower input	
2	+12V	+12Vpower input	
3	GND	Ground	
4	GND	Ground	

5	CVBS	Video signal input	
6	YIN	Y signal input	
7	CIN	C signal input	
8	GND	Ground	

6.2 J102:

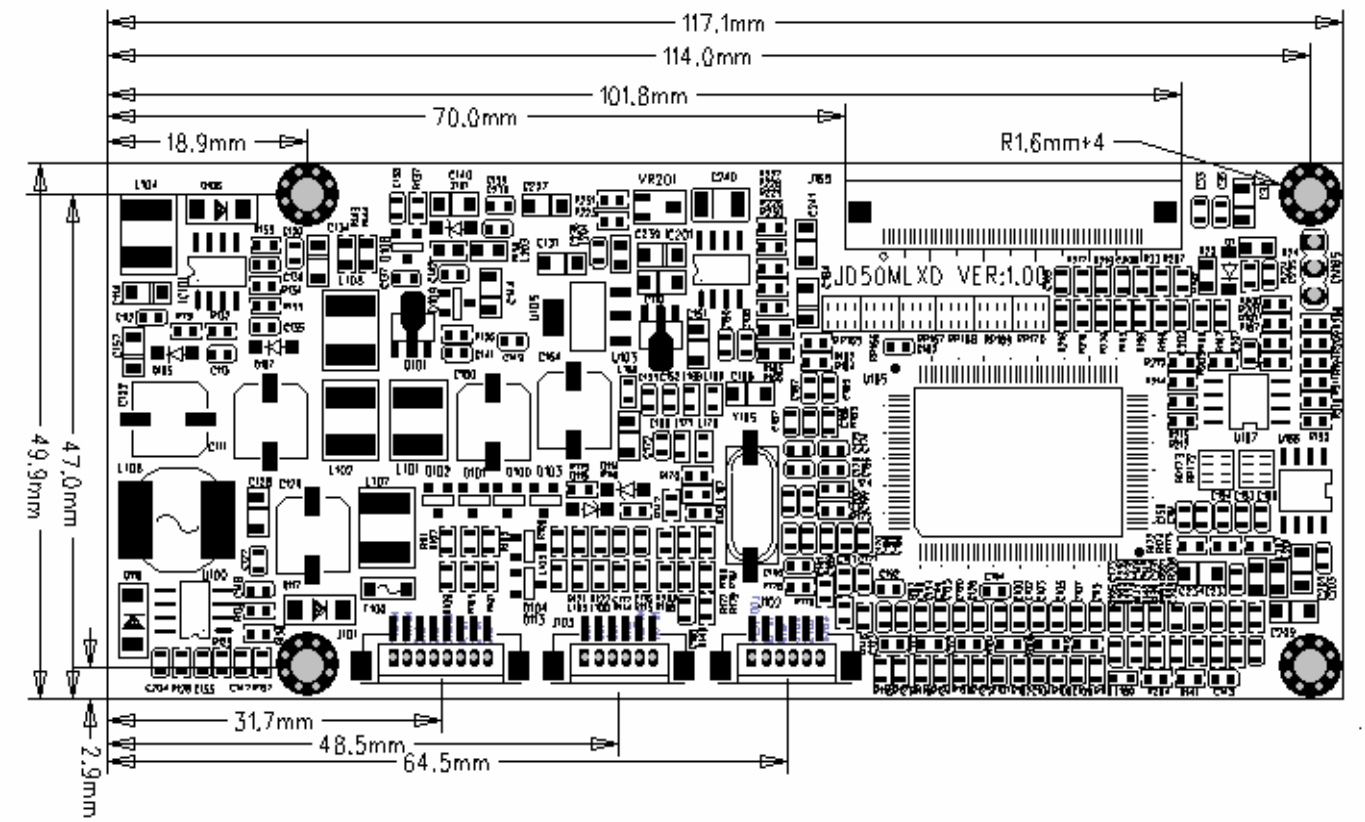
Pin No.	Symbol	Description	Remarks
1	+5V	+5V output	
2	IR	Remote control receiver signal	
3	GND	Ground	
4	SAR0	Key-press input	
5	SAR1	Key-press input	
6	SAR2	Key-press input	

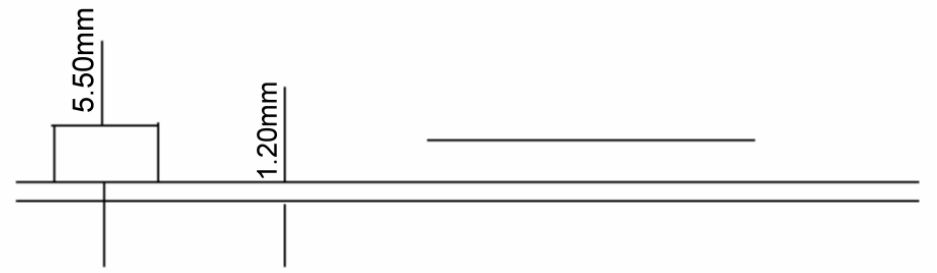
6.3 J165 :

Pin No.	Symbol	I/O	Function	Remark
1	VLED+	P	Power for LED	
2	VLED+	P	Power for LED	
3	VLED-	P	Power for LED	
4	VLED-	P	Power for LED	
5	GND	P	Power ground	
6	VCOM	I	VCOM input	
7	VCC	P	Digital power supply(+3.3V)	
8	MODE	I	DE or HV mode control	Note1
9	DE	I	Data Enable	
10	VS	I	Vsync signal input	
11	HS	I	Hsync signal input	
12	B7	I	Blue data input (MSB)	
13	B6	I	Blue data input	
14	B5	I	Blue data input	
15	B4	I	Blue data input	

16	B3	I	Blue data input	
17	B2	I	Blue data input	
18	B1	I	Blue data input	
19	B0	I	Blue data input(LSB)	
20	G7	I	Green data input(MSB)	
21	G6	I	Green data input	
22	G5	I	Green data input	
23	G4	I	Green data input	
24	G3	I	Green data input	
25	G2	I	Green data input	
26	G1	I	Green data input	
27	G0	I	Green data input(LSB)	
28	R7	I	Red data input(MSB)	
29	R6	I	Red data input	
30	R5	I	Red data input	
31	R4	I	Red data input	
32	R3	I	Red data input	
33	R2	I	Red data input	
34	R1	I	Red data input	
35	R0	I	Red data input(LSB)	
36	GND	P	Power ground	
37	DCLK	I	Sample clock	
38	GND	P	Power ground	
39	L/R	I	Select left to right scanning direction	Note2
40	U/D	I	Select up or down scanning direction	Note2
41	VGH	I	Positive power for scan driver	
42	VGL	I	Negative power for scan driver	
43	AVDD	P	Analog power supply(+5V)	
44	RESET	I	Reset	
45	POL	O	Polarity select for the line inversion control signal	
46	VCOM	I	VCOM input	
47	NC	-	No connect	
48	NC	-	No connect	
49	NC	-	No connect	
50	NC	-	No connect	

7.2 Structural Diagram of PCB:





8. 5.6"TFT- LCD PANEL Inspection Standard:

Aim：Establishing the standard of PANLE for inspecting material & progress and for clients' inspection.

Scope：Apply to 5.6″TFT LCD

Content：

8.1. Inspection standard and method：

8.1.1. The method and determinant of inspecting the nick of panel of LCD：

9.1.1.1. Inspect vertically (or at 45 ° angle from left/right)under the light tube (the power is 20 W) in the distance of 30cm to the panel. If there is no nick , it is "OK". Otherwise "NG".

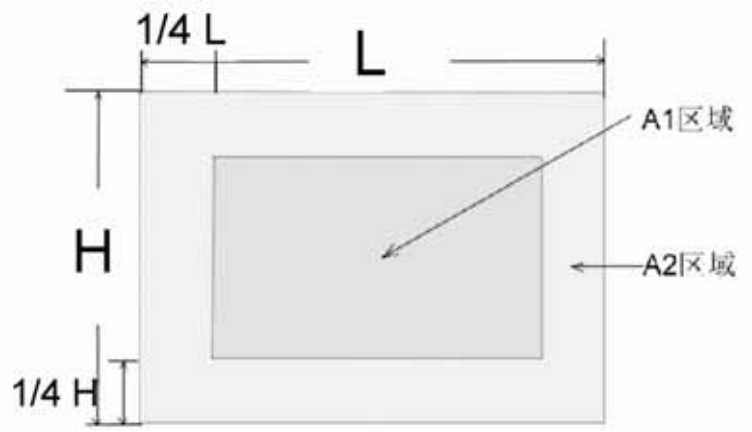
8.1.2. The method and determinative for black & white & color spots for the Panel of LCD：

8.1.2.1. Inspection methods

8.1.2.1.1. Black spots：under status of denote light，set the MASK of black spot inspection near the black spot then compare the big and small by eyes.

8.1.2.1.2. White & Color spots: under status of denote light, set the Mask of black spot inspection on the white spot(or color spot) then inspect them by eyes if it can hide.

8.1.2.2. Division of LCD Panel



Remark：A1：The center of the available area for the picture

A2：The edge of the available area for the picture（around the central area）

8.1.3. Determinant Choice

Spot Diameter（mm）		Allowed Area	
		A1	A2
Black Spot	d≤0.15	Irrespective	Irrespective
	0.15<d≤0.3	4	4
	0.3<d≤0.5	2	3
	0.5<d≤0.8	0	2
White or color spot	d≤0.15	Irrespective	Irrespective
	0.15<d≤0.3	3	3
	0.3<d≤0.5	1	2
	0.5<d≤0.8	0	1

Remark: 1. Size: Average Diameter=（Max. Diameter + Min. Diameter）/2

2. Using information above as a standard in order to judge while the spot is are dense.

3. Black & White spot：To judge the obvious spots through the change of voltage by comparison。

4. Total quantity of Black & white & color spot: A1+A2 ≤ 4。

9. Packing

TBD

10. Attention:

1. Voltage don't exceed upper limit 。
2. The connector can't connect board in reverse, or will burn the board and influence the product.
3. Please don't touch it in order to keep your skin non-burn when you electrify the board(high voltage on the board).
4. It is a electronic product, so you need to take anti-static measure when you operate it.
5. 5.6"TFT-LCD panel is a glasswork, place carefully ,broken for fear.
6. The connection is "FPC", which connect 5.6"TFT-LCD panel with PCB, Please operate it carefully, in order to keep it well.
7. Don't touch key-press's pin when you adjust brightness, color through soft key-press, due to Person have resistance, you will effect image's impact when touch it.